Questionnaire Identifies Patients At Greater Risk For Complications

A simple, eight-item pre-operative questionnaire could help identify patients at risk for complications following surgery, according to a report in the October issue of *Archives of Otolaryngology–Head & Neck Surgery,* one of the JAMA/Archives journals. Individuals prone to the obstructive sleep apnea syndrome, as determined by the questionnaire, appear to have an increased risk of heart, lung and other complications following elective surgery.

Obstructive sleep apnea, a disorder in which individuals periodically stop breathing during sleep, occurs in approximately five to nine percent of the general population, according to background information in the article. The condition may be more common among patients undergoing surgery, and the related cardiorespiratory consequences may be exacerbated following surgical procedures because anesthetic agents and pain relievers decrease muscle tone in the upper airways and diminish control of breathing. "Therefore, it is important to identify surgical patients who are at high risk for obstructive sleep apnea syndrome," the authors write.

Polysomnography conducted in a sleep laboratory and home sleep testing have both been used to diagnose obstructive sleep apnea. However, neither procedure has been used extensively among patients preparing for surgery, the authors note. Tajender S. Vasu, M.D., and colleagues at Thomas Jefferson University Hospital, Philadelphia, studied 135 patients undergoing elective surgery in May 2008. Before their procedures, all the patients completed the STOP-BANG (Snoring, Tiredness during daytime, Observed apnea, high blood Pressure, Body mass index, Age, Neck circumference and Gender) questionnaire, which consists of eight yes-or-no questions to assess apnea risk.

Of the patients, 41.5 percent had high scores on STOP-BANG, indicating a high risk for obstructive sleep apnea and 8.9 percent experienced heart or lung-related complications. Patients with higher scores on STOP-BANG had increased rates of postoperative complications (19.6 percent vs. 1.3 percent) and longer hospital stays (3.6 days vs. 2.1 days) compared with patients who had lower scores.

"The high rate of post-operative complications in patients with obstructive sleep apnea syndrome may be owing to a variety of reasons," the authors write. "Central nervous system suppression owing to anesthesia, sedation and analgesia can foment sleep-disordered breathing and further asphyxia-related complications." In addition, rapid eye movement (REM) sleep is diminished the night after surgery, followed by a period of REM rebound. The occurrence of breathing problems during REM sleep can consequently triple on the second and third postoperative nights.

"Most patients with obstructive sleep apnea syndrome have undiagnosed conditions and are almost certainly at risk in the perioperative setting," the time period immediately after surgery, the authors write. "The STOP-BANG questionnaire is a convenient and useful screening tool that appears to reliably identify patients who are at increased risk for post-operative complications."

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